

## SEQUENCE LISTING

<110> Holmdahl, Rikard Hellman, Lars T.

<120> METHODS AND MATERIALS FOR TREATING INFLAMMATORY CONDITIONS

<130> 10223/007001

<140> 10/724,662 <141> 2003-12-01

<150> 60/430,278 <151> 2002-12-02

<160> 4

÷

<170> FastSEQ for Windows Version 4.0

<210> 1 <211> 5403 <212> DNA <213> Mus musculus

<400> 1

gccgctacca	gccatgggtc	tttggggaat	actttgtctt	ttaattttcc	tggacaaaac	60
ttggggacag	gaacaaacct	acgtcatttc	agcacccaaa	atcctccggg	tcggctcgtc	120
tgaaaatgtg	gtaattcaag	tccatggcta	cactgaagca	tttgatgcaa	ctctttctct	180
aaaaagctat	cctgacaaaa	aagtcacctt	ctcttcaggc	tatgttaatt	tgtccccgga	240
aaacaaattc	caaaacgcgg	cactgttgac	actacagccc	aatcaagttc	ctagagaaga	300
aagcccagtc	tctcacgtgt	atctggaagt	tgtgtcaaaa	cacttttcaa	aatcaaagaa	360
aataccaatt	acctataaca	atggaattct	cttcatccat	acagacaaac	ctgtttacac	420
gccggaccag	tcagtaaaga	tcagagtcta	ttctctgggt	gacgacttga	agccagccaa	480
acgggagact	gtcttaactt	tcatagaccc	cgaaggatca	gaagttgaca	ttgtagaaga	540
aaatgattac	accggaatta	tctctttcc	tgacttcaag	attccatcta	atcccaagta	600
tggtgtttgg	acaattaaag	ctaactataa	gaaggatttt	acaacaactg	gaactgcata	660
ctttgaaatt	aaagaatatg	tcttgccacg	attctctgtt	tcaatagaac	tagaaagaac	720
		ttaagaactt				780
taataaagtg	gtacctgatg	ctgaagtgta	tgccttttt	ggattgagag	aggacataaa	840
agatgaggag	aagcagatga	tgcacaaagc	cacacaagcc	gcaaagttgg	ttgacggagt	900
tgctcagatc	tcttttgatt	ctgaaacagc	agttaaagag	ctgtcctaca	acagtctaga	960
agacttaaac	aacaagtacc	tttatattgc	agtaacagtc	acagaatctt	caggtggatt	1020
ttcagaagag	gcagaaatcc	ctggagtcaa	atatgtcctc	tctccctaca	cactgaattt	1080
ggtcgctact	cctcttttcg	tgaagcccgg	gattccattt	tccatcaagg	cacaggttaa	1140
agattcactc	gagcaggcgg	taggaggggt	cccagtaact	ctgatggcac	aaacagtcga	1200
tgtgaatcaa	gagacatctg	acttggaaac	aaagaggagc	atcactcatg	acactgatgg	1260
agtagctgtg	tttgtgctga	acctcccatc	aaatgtgacg	gtgctaaagt	ttgagatcag	1320
aactgatgac	ccagaacttc	ccgaagaaaa	tcaagccagc	aaagagtacg	aagcagttgc	1380
gtactcgtct	ctcagccaaa	gttacattta	catcgcttgg	actgaaaact	acaagcccat	1440
gcttgtggga	gaatacctga	atattatggt	tacccccaag	agcccatata	tcgacaaaat	1500

aactcactat	aattacttga	ttttatccaa	aggcaaaatt	gtacagtacg	gcacaagaga	1560
	tcctcaactt					1620
-	ctcctggtct					1680
	tggataaata					1740
	tatgtgtatt					1800
	gtagcactat					1860
	atgcaaagag					1920
	ggccatgaca					1980
	gcagatgact					2040
	ctgcatctcc					2100
	aagaaatgct					2160
	gcccgggtta					2220
	aacaagatcc					2280
	accctgttac					2340
	gaaattcatc					2400
	acttgggaaa					2460
	aaggcaaagg					2520
	ggagaacaga					2580
	tgtgttaaaa					2640
	cacacctcca					2700
	gtgaccttca					2760
	acctcatttg					2820
	agggaaagct					2880
	cgaaaggaat					2940
	attttgagtg					3000
	ggcatcaaca					3060
	gctccggtgt					3120
	cctgatacac					3180
	gtcatgtcct					3240
	acctggctga					3300
	gatgaaaact					3360
gctggaaaac	ggctctttca	aggaaaattc	ccaatatcta	ccaataaaat	tacagggtac	3420
tttgcctgct	gaagcccaag	agaaaacttt	gtatcttaca	gccttttctg	tgattggaat	3480
tagaaaggca	gttgacatat	gccccaccat	gaaaatccac	acagcgctag	ataaagccga	3540
ctccttcctg	cttgaaaaca	ccctgccatc	caagagcacc	ttcacactgg	ccattgtagc	3600
	tccctaggag					3660
gaggaaggaa	gcttttgtta	aaggtgatcc	gcccatttac	cgttactgga	gagataccct	3720
caaacgtcca	gacagctctg	tgcccagcag	cggcacagca	ggtatggttg	aaaccacagc	3780
ctatgctttg	ctcgccagcc	tgaaactgaa	ggatatgaat	tacgccaacc	ccatcatcaa	3840
	gaagagcaga					3900
	ggcctgacag					3960
	gcctacaaac					4020
	aggccagtgg					4080
	ttggccacag					4140
	agcttttact					4200
	gactctggat					4260
	acatccgggt					4320
	gaggaagatt					4380
	aaagatggcc					4440
	cggttccgga					4500
	tacgagtatc					4560
tgacaccagg	cttcagaaag	tctgtgaagg	agcagettge	acatgtgtgg	aagetgaetg	4620

2

ı

.

.

tgcgcaactg caggcagaag tagacctagc catctctgca gactccagaa aagagaaagc ctqtaaacca gagactgcat atgcttataa agtcaggatc acatcagcca ctgaagaaaa tgtttttgtc aagtacactg cgactcttct ggtcacttac aaaacagggg aagctgctga tgagaattcg gaggtcacct tcattaaaaa gatgagctgt accaatgcca acctggtgaa agggaagcag tatttaatca tgggcaaaga ggttctgcag atcaaacaca atttcagttt caagtatata taccctctag attcctccac ctggattgaa tattggccca cagacacaac gtgtccatcc tgtcaagcat ttgtagagaa tttgaataac tttgctgaag acctcttttt aaacagctgt gaatgaaaag ttctgctgca cgaagattcc tcctgcggcg gggggattgc tcctcctctg gcttggaaac ctagcctaga atcagataca ctttctttag agtaaagcac aagetgatga gttacgaett tgtgaaatgg atageettga ggggaggega aaacaggtee cccaaqqcta tcagatgtca gtgccaatag actgaaacaa gtctgtaaag ttagcagtca qqqqtqttqq ttqqqqccqq aagaagagac ccactgaaac tgtagcccct tatcaaaaca tatccttgct tgaaagaaaa ataccaagga cagaaaatgc cataaaatct tgactttgca ctc <210> 2 <211> 1680 <212> PRT <213> Mus musculus <400> 2 Met Gly Leu Trp Gly Ile Leu Cys Leu Leu Ile Phe Leu Asp Lys Thr Trp Gly Gln Glu Gln Thr Tyr Val Ile Ser Ala Pro Lys Ile Leu Arg Val Gly Ser Ser Glu Asn Val Val Ile Gln Val His Gly Tyr Thr Glu Ala Phe Asp Ala Thr Leu Ser Leu Lys Ser Tyr Pro Asp Lys Val Thr Phe Ser Ser Gly Tyr Val Asn Leu Ser Pro Glu Asn Lys Phe Gln Asn Ala Ala Leu Leu Thr Leu Gln Pro Asn Gln Val Pro Arg Glu Glu Ser Pro Val Ser His Val Tyr Leu Glu Val Val Ser Lys His Phe Ser Lys Ser Lys Lys Ile Pro Ile Thr Tyr Asn Asn Gly Ile Leu Phe Ile His Thr Asp Lys Pro Val Tyr Thr Pro Asp Gln Ser Val Lys Ile Arg Val Tyr Ser Leu Gly Asp Asp Leu Lys Pro Ala Lys Arg Glu Thr Val Leu Thr Phe Ile Asp Pro Glu Gly Ser Glu Val Asp Ile Val Glu Glu Asn Asp Tyr Thr Gly Ile Ile Ser Phe Pro Asp Phe Lys Ile Pro Ser Asn Pro Lys Tyr Gly Val Trp Thr Ile Lys Ala Asn Tyr Lys Lys Asp Phe Thr Thr Gly Thr Ala Tyr Phe Glu Ile Lys Glu Tyr Val Leu Pro Arg Phe Ser Val Ser Ile Glu Leu Glu Arg Thr Phe Ile Gly Tyr Lys Asn Phe Lys Asn Phe Glu Ile Thr Val Lys Ala Arg Tyr Phe Tyr

Asn Lys Val Val Pro Asp Ala Glu Val Tyr Ala Phe Phe Gly Leu Arg Glu Asp Ile Lys Asp Glu Glu Lys Gln Met Met His Lys Ala Thr Gln Ala Ala Lys Leu Val Asp Gly Val Ala Gln Ile Ser Phe Asp Ser Glu Thr Ala Val Lys Glu Leu Ser Tyr Asn Ser Leu Glu Asp Leu Asn Asn Lys Tyr Leu Tyr Ile Ala Val Thr Val Thr Glu Ser Ser Gly Gly Phe Ser Glu Glu Ala Glu Ile Pro Gly Val Lys Tyr Val Leu Ser Pro Tyr Thr Leu Asn Leu Val Ala Thr Pro Leu Phe Val Lys Pro Gly Ile Pro Phe Ser Ile Lys Ala Gln Val Lys Asp Ser Leu Glu Gln Ala Val Gly Gly Val Pro Val Thr Leu Met Ala Gln Thr Val Asp Val Asn Gln Glu Thr Ser Asp Leu Glu Thr Lys Arg Ser Ile Thr His Asp Thr Asp Gly Val Ala Val Phe Val Leu Asn Leu Pro Ser Asn Val Thr Val Leu Lys Phe Glu Ile Arg Thr Asp Asp Pro Glu Leu Pro Glu Glu Asn Gln Ala Ser Lys Glu Tyr Glu Ala Val Ala Tyr Ser Ser Leu Ser Gln Ser Tyr Ile Tyr Ile Ala Trp Thr Glu Asn Tyr Lys Pro Met Leu Val Gly Glu Tyr Leu Asn Ile Met Val Thr Pro Lys Ser Pro Tyr Ile Asp Lys Ile 4.85 Thr His Tyr Asn Tyr Leu Ile Leu Ser Lys Gly Lys Ile Val Gln Tyr Gly Thr Arg Glu Lys Leu Phe Ser Ser Thr Tyr Gln Asn Ile Asn Ile Pro Val Thr Gln Asn Met Val Pro Ser Ala Arg Leu Leu Val Tyr Tyr 535 · Ile Val Thr Gly Glu Gln Thr Ala Glu Leu Val Ala Asp Ala Val Trp Ile Asn Ile Glu Glu Lys Cys Gly Asn Gln Leu Gln Val His Leu Ser Pro Asp Glu Tyr Val Tyr Ser Pro Gly Gln Thr Val Ser Leu Asp Met Val Thr Glu Ala Asp Ser Trp Val Ala Leu Ser Ala Val Asp Arg Ala Val Tyr Lys Val Gln Gly Asn Ala Lys Arg Ala Met Gln Arg Val Phe Gln Ala Leu Asp Glu Lys Ser Asp Leu Gly Cys Gly Ala Gly Gly Gly His Asp Asn Ala Asp Val Phe His Leu Ala Gly Leu Thr Phe Leu Thr 650 . Asn Ala Asn Ala Asp Asp Ser His Tyr Arg Asp Asp Ser Cys Lys Glu

Ile Leu Arg Ser Lys Arg Asn Leu His Leu Leu Arg Gln Lys Ile Glu Glu Gln Ala Ala Lys Tyr Lys His Ser Val Pro Lys Lys Cys Cys Tyr Asp Gly Ala Arg Val Asn Phe Tyr Glu Thr Cys Glu Glu Arg Val Ala Arg Val Thr Ile Gly Pro Leu Cys Ile Arg Ala Phe Asn Glu Cys Cys Thr Ile Ala Asn Lys Ile Arg Lys Glu Ser Pro His Lys Pro Val Gln Leu Gly Arg Ile His Ile Lys Thr Leu Leu Pro Val Met Lys Ala Asp Ile Arg Ser Tyr Phe Pro Glu Ser Trp Leu Trp Glu Ile His Arg Val Pro Lys Arg Lys Gln Leu Gln Val Thr Leu Pro Asp Ser Leu Thr Thr Trp Glu Ile Gln Gly Ile Gly Ile Ser Asp Asn Gly Ile Cys Val Ala Asp Thr Leu Lys Ala Lys Val Phe Lys Glu Val Phe Leu Glu Met Asn Ile Pro Tyr Ser Val Val Arg Gly Glu Gln Ile Gln Leu Lys Gly Thr Val Tyr Asn Tyr Met Thr Ser Gly Thr Lys Phe Cys Val Lys Met Ser Ala Val Glu Gly Ile Cys Thr Ser Gly Ser Ser Ala Ala Ser Leu His Thr Ser Arg Pro Ser Arg Cys Val Phe Gln Arg Ile Glu Gly Ser Ser Ser His Leu Val Thr Phe Thr Leu Leu Pro Leu Glu Ile Gly Leu His Ser Ile Asn Phe Ser Leu Glu Thr Ser Phe Gly Lys Asp Ile Leu Val Lys Thr Leu Arg Val Val Pro Glu Gly Val Lys Arg Glu Ser Tyr Ala Gly Val Ile Leu Asp Pro Lys Gly Ile Arg Gly Ile Val Asn Arg Arg Lys Glu Phe Pro Tyr Arg Ile Pro Leu Asp Leu Val Pro Lys Thr Lys Val Glu Arg Ile Leu Ser Val Lys Gly Leu Leu Val Gly Glu Phe Leu Ser Thr Val Leu Ser Lys Glu Gly Ile Asn Ile Leu Thr His Leu Pro Lys Gly Ser Ala Glu Ala Glu Leu Met Ser Ile Ala Pro Val Phe Tyr Val Phe His Tyr Leu Glu Ala Gly Asn His Trp Asn Ile Phe Tyr Pro Asp Thr Leu Ser Lys Arg Gln Ser Leu Glu Lys Lys Ile Lys Gln Gly Val Val Ser Val Met Ser Tyr Arg Asn Ala Asp Tyr Ser Tyr Ser Met Trp Lys Gly Ala Ser Ala Ser Thr Trp Leu Thr Ala Phe Ala Leu Arg

Val Leu Gly Gln Val Ala Lys Tyr Val Lys Gln Asp Glu Asn Ser Ile Cys Asn Ser Leu Leu Trp Leu Val Glu Lys Cys Gln Leu Glu Asn Gly Ser Phe Lys Glu Asn Ser Gln Tyr Leu Pro Ile Lys Leu Gln Gly Thr Leu Pro Ala Glu Ala Gln Glu Lys Thr Leu Tyr Leu Thr Ala Phe Ser Val Ile Gly Ile Arg Lys Ala Val Asp Ile Cys Pro Thr Met Lys Ile His Thr Ala Leu Asp Lys Ala Asp Ser Phe Leu Leu Glu Asn Thr Leu Pro Ser Lys Ser Thr Phe Thr Leu Ala Ile Val Ala Tyr Ala Leu Ser Leu Gly Asp Arg Thr His Pro Arg Phe Arg Leu Ile Val Ser Ala Leu Arg Lys Glu Ala Phe Val Lys Gly Asp Pro Pro Ile Tyr Arg Tyr Trp Arg Asp Thr Leu Lys Arg Pro Asp Ser Ser Val Pro Ser Ser Gly Thr Ala Gly Met Val Glu Thr Thr Ala Tyr Ala Leu Leu Ala Ser Leu Lys Leu Lys Asp Met Asn Tyr Ala Asn Pro Ile Ile Lys Trp Leu Ser Glu Glu Gln Arg Tyr Gly Gly Gly Phe Tyr Ser Thr Gln Asp Thr Ile Asn Ala Ile Glu Gly Leu Thr Glu Tyr Ser Leu Leu Leu Lys Gln Ile His Leu Asp Met Asp Ile Asn Val Ala Tyr Lys His Glu Gly Asp Phe His Lys Tyr Lys Val Thr Glu Lys His Phe Leu Gly Arg Pro Val Glu Val Ser Leu Asn Asp Asp Leu Val Val Ser Thr Gly Tyr Ser Ser Gly Leu Ala Thr Val Tyr Val Lys Thr Val Val His Lys Ile Ser Val Ser Glu Glu Phe Cys Ser Phe Tyr Leu Lys Ile Asp Thr Gln Asp Ile Glu Ala Ser Ser His Phe Arg Leu Ser Asp Ser Gly Phe Lys Arg Ile Ile Ala Cys Ala Ser Tyr Lys Pro Ser Lys Glu Glu Ser Thr Ser Gly Ser Ser His Ala Val Met Asp Ile Ser Leu Pro Thr Gly Ile Gly Ala Asn Glu Glu Asp Leu Arg Ala Leu Val Glu Gly Val Asp Gln Leu Leu Thr Asp Tyr Gln Ile Lys Asp Gly His Val Ile Leu Gln Leu Asn Ser Ile Pro Ser Arg Asp Phe Leu Cys Val Arg Phe Arg Ile Phe Glu Leu Phe Gln Val Gly Phe Leu Asn Pro Ala Thr Phe Thr Val Tyr Glu Tyr His Arg

Pro Asp Lys Gln Cys Thr Met Ile Tyr Ser Ile Ser Asp Thr Arg Leu Gln Lys Val Cys Glu Gly Ala Ala Cys Thr Cys Val Glu Ala Asp Cys Ala Gln Leu Gln Ala Glu Val Asp Leu Ala Ile Ser Ala Asp Ser Arg Lys Glu Lys Ala Cys Lys Pro Glu Thr Ala Tyr Ala Tyr Lys Val Arg Ile Thr Ser Ala Thr Glu Glu Asn Val Phe Val Lys Tyr Thr Ala Thr Leu Leu Val Thr Tyr Lys Thr Gly Glu Ala Ala Asp Glu Asn Ser Glu Val Thr Phe Ile Lys Lys Met Ser Cys Thr Asn Ala Asn Leu Val Lys Gly Lys Gln Tyr Leu Ile Met Gly Lys Glu Val Leu Gln Ile Lys His Asn Phe Ser Phe Lys Tyr Ile Tyr Pro Leu Asp Ser Ser Thr Trp Ile Glu Tyr Trp Pro Thr Asp Thr Thr Cys Pro Ser Cys Gln Ala Phe Val Glu Asn Leu Asn Asn Phe Ala Glu Asp Leu Phe Leu Asn Ser Cys Glu <210> 3 <211> 1434 <212> DNA <213> Artificial Sequence <220> <223> PCR product encoding fusion protein <400> 3 gaattecace ateaceatea ceatetegag eegegggeeg atatgaaaat egaagaaggt aaactggtaa tetggattaa eggegataaa ggetataaeg gtetegetga agteggtaag aaattcgaga aagataccgg aattaaagtc accgttgagc atccggataa actggaagag aaatteecac aggttgegge aactggegat ggeeetgaca ttatettetg ggeacaegae cgctttggtg gctacgctca atctggcctg ttggctgaaa tcaccccgga caaagcgttc caggacaage tgtatecgtt tacetgggat geegtacgtt acaaeggeaa getgattget tacccgatcg ctgttgaagc gttatcgctg atttataaca aagatctgct gccgaacccg ccaaaaaacct qqqaaqaqat cccqqcqctq qataaagaac tgaaagcgaa aggtaagagc gcgctgatgt tcaacctgca agaaccgtac ttcacctggc cgctgattgc tgctgacggg qqttatqcqt tcaaqtatga aaacggcaag tacgacatta aagacgtggg cgtggataac gctqgcgcga aagcgggtct gaccttcctg gttgacctga ttaaaaacaa acacatgaat gcagacaccg attactccat cgcagaagct gcctttaata aaggcgaaac agcgatgacc atcaacggcc cgtgggcatg gtccaacatc gacaccagca aagtgaatta tggtgtaacg gtactgccga ccttcaaggg tcaaccatcc aaaccgttcg ttggcgtgct gagcgcaggt attaacqccq ccaqtccqaa caaaqagctg qcaaaagagt tcctcgaaaa ctatctgctg actgatgaag gtctggaagc ggttaataaa gacaaaccgc tgggtgccgt agcgctgaag tottacgagg aagagttggc gaaagatcca cgtattgccg ccactatgga aaacgcccag aaaggtgaaa tcatgccgaa catcccgcag atgtccgctt tctggtatgc cgtgcgtact geggtgatea acgeegeeag eggtegteag actgtegatg aageeetgaa agaegegeag 

actaattega getegaacaa caacaacaat aacaataaca acaacetegg gategaggga aggetgetaa ggeagaaaat agaagaacaa getgetaagt acaaacatag tgtgecaaag aaatgctgct atgacggagc ccgagtgaac ttctacgaaa cctgtgagga gcgagtggcc cgggttacca taggecetet etgeateagg geetteaacg agtgetgtae tattgegaae aaqatccgaa aagaaagccc ccataaacct gtccaactgg gaaggtaagt cgag <210> 4 <211> 475 <212> PRT <213> Artificial Sequence <220> <223> fusion protein <400> 4 Glu Phe His His His His His Leu Glu Pro Arg Ala Asp Met Lys Ile Glu Glu Gly Lys Leu Val Ile Trp Ile Asn Gly Asp Lys Gly Tyr Asn Gly Leu Ala Glu Val Gly Lys Lys Phe Glu Lys Asp Thr Gly Ile Lys Val Thr Val Glu His Pro Asp Lys Leu Glu Glu Lys Phe Pro Gln Val Ala Ala Thr Gly Asp Gly Pro Asp Ile Ile Phe Trp Ala His Asp Arg Phe Gly Gly Tyr Ala Gln Ser Gly Leu Leu Ala Glu Ile Thr Pro Asp Lys Ala Phe Gln Asp Lys Leu Tyr Pro Phe Thr Trp Asp Ala Val Arg Tyr Asn Gly Lys Leu Ile Ala Tyr Pro Ile Ala Val Glu Ala Leu Ser Leu Ile Tyr Asn Lys Asp Leu Leu Pro Asn Pro Pro Lys Thr Trp Glu Glu Ile Pro Ala Leu Asp Lys Glu Leu Lys Ala Lys Gly Lys Ser Ala Leu Met Phe Asn Leu Gln Glu Pro Tyr Phe Thr Trp Pro Leu Ile Ala Ala Asp Gly Gly Tyr Ala Phe Lys Tyr Glu Asn Gly Lys Tyr Asp Ile Lys Asp Val Gly Val Asp Asn Ala Gly Ala Lys Ala Gly Leu Thr Phe Leu Val Asp Leu Ile Lys Asn Lys His Met Asn Ala Asp Thr Asp Tyr Ser Ile Ala Glu Ala Ala Phe Asn Lys Gly Glu Thr Ala Met Thr Ile Asn Gly Pro Trp Ala Trp Ser Asn Ile Asp Thr Ser Lys Val Asn Tyr Gly Val Thr Val Leu Pro Thr Phe Lys Gly Gln Pro Ser Lys Pro Phe Val Gly Val Leu Ser Ala Gly Ile Asn Ala Ala Ser Pro Asn Lys Glu Leu Ala Lys Glu Phe Leu Glu Asn Tyr Leu Leu Thr Asp Glu Gly

Leu Glu Ala Val Asn Lys Asp Lys Pro Leu Gly Ala Val Ala Leu Lys Ser Tyr Glu Glu Leu Ala Lys Asp Pro Arg Ile Ala Ala Thr Met Glu Asn Ala Gln Lys Gly Glu Ile Met Pro Asn Ile Pro Gln Met Ser Ala Phe Trp Tyr Ala Val Arg Thr Ala Val Ile Asn Ala Ala Ser Gly Arg Gln Thr Val Asp Glu Ala Leu Lys Asp Ala Gln Thr Asn Ser Ser Arg Leu Leu Arg Gln Lys Ile Glu Glu Gln Ala Ala Lys Tyr Lys His Ser Val Pro Lys Lys Cys Cys Tyr Asp Gly Ala Arg Val Asn Phe Tyr Glu Thr Cys Glu Glu Arg Val Ala Arg Val Thr Ile Gly Pro Leu Cys Ile Arg Ala Phe Asn Glu Cys Cys Thr Ile Ala Asn Lys Ile Arg Lys Glu Ser Pro His Lys Pro Val Gln Leu Gly Arg